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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/897,848

07/02/2001

Narayan L. Gehlot

Gehlot 22

1077

7590

10/20/2004

HARNESS, DICKEY & PIERCE, P.L.C
P.O. BOX 8910
RESTON, VA 20195

EXAMINER

TRAN, DZUNG D

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/897,848

Applicant(s)

GEHLOT, NARAYAN L.

Examiner

Dzung D Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26 is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-12, 14-23 and 25 is/are rejected.
- 7) ☒ Claim(s) 9, 13 and 24 is/are objected to.
- 8) ☒ Claim(s) 26 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 10, 11, 15, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Davarian US patent no. 4,675,880.

Regarding claims 1 and 15, Davarian discloses a communication system comprising:

a channel (col. 2, line 35);

a transmitter (figure 1, col. 3, line 45) for transmitting a data signal from data source 10 having a spectrum, the transmitter including:

an operating parameter carrier generator operable to provide an operating parameter carrier at a frequency having a value in a null of the spectrum (figures 1, 1a, elements 11-21, col. 8, lines 55-61); and

a summer 22 for summing the operating parameter carrier with the data signal wherein the transmitter transmits the summed signal over the channel (figure 1, col. 3, lines 59-66); and

a receiver (figures 2, 3) for receiving the summed signal, the receiver operable to recover the operating parameter carrier (col. 4, lines 1-33).

Regarding claims 10 and 18, Davarian further discloses the filters 43-46 for limiting bandwidth of operating parameter carrier (col. 8, lines 12-16).

Regarding claims 11 and 19, Davarian further discloses a filter 40 for bandwidth limiting the summed signal (col. 8, line 4).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 5, 6, 16 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davarian US patent no. 4,675,880 in view of Bruene US patent no. 4,302,844.

Regarding claims 2, 5, 16 and 23, Davarian discloses all the limitations except for the data spectrum of the data signal comprises a plurality of nulls, and at least another operating parameter carrier. Since Davarian reference taught the technique of creates a null into the stream of data signal to which the tone is inserted (col. 8, lines 55-61). One of ordinary skill in the art would have been using the same technique taught by Davarian to insert a plurality of carrier frequencies in the vicinity of plurality nulls.

Furthermore, Bruene US patent no. 4,302,844 shown in figures 2a-2f, the data signal comprises a plurality of nulls having a plurality of carrier frequencies in the vicinity of plurality nulls. Therefore, at the time of the invention was made, it would have been obvious to include the teaching of Bruene in the system of Davarian for using the tone signals to control the data streams, thus it is easier to detect the optical SNR and BER.

Regarding claim 6, wavelength division multiplexed is well recognized for use in the optical system.

5. Claims 3, 4, 17, 20 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davarian US patent no. 4,675,880 in view of Sieben et al. US patent no. 5,880,870.

Regarding claims 3 and 20, Davarian discloses all the limitations except for the communication system comprises at least one optical signal. Sieben from the same field of endeavor, discloses the optical system comprises an optical source (figure 2, element LASER) is modulated with the carrier data signal $m(t)$ by modulators 14 (see figure 2). Since optical signals are attenuated less during transmission than electrical signals and optical fibers are mechanically stronger and lighter than their electrical counterparts. At the time of the invention was made, it would have been obvious to one of ordinary skill in the art to include the teaching of Sieben in the system of Davarian in order to take an advantage of the optical signals that is it can be transmitted over the high bandwidth of optical fibers and the ability to transmit a plurality of carriers with different wavelengths simultaneously in the same fiber.

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Regarding claims 4, 17 and 25, Sieben discloses carrier frequency F_b (same as operating parameter carrier) is a sinusoid (col. 8, line 1).

6. Claims 7, 8, 12, 14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davarian US patent no. 4,675,880 in view of Sieben et al. US patent no. 5,880,870 and further in view of Mahgerefteh US patent no. 6,046,841.

As per claims above, Davarian and Sieben disclose all the limitation except for the data spectrum is in RZ format (claim 7) and is in NRZ format (claims 8 and 12). Mahgerefteh discloses a wavelength converter that converts the optical data signal into RZ data format or NRZ data format (figures 6- 9, col. 5, lines 63-65). Since RZ format and NRZ format have different advantage depend on physical layer (for example RZ signals have the advantage of achieves better performance than NRZ signal for propagation in SMF). It would have been obvious to an artisan at the time of the invention was made to include the RZ data format and NRZ data format taught by Mahgerefteh in the system of Davarian and Sieben. One of ordinary skill in the art would have been motivated to encode the RZ data format or NRZ data format in the optical data signal in order to detect and control the data stream optical signal.

Regarding claim 21, wavelength division multiplexed is well recognized for use in the optical system.

Regarding claim 14, Davarian further discloses a filter 40 for bandwidth limiting the summed signal (col. 8, line 4).

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7. Claims 9, 13 and 24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claim 26 is allowed.

9. According to file record, there was an IDS filed on 08/08/2001. However, examiner can not locate such IDS in file. Examiner would appreciate resubmission of such IDS statement.

10. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

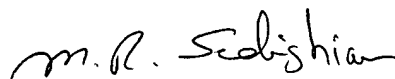
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DT
10/12/2004


M. R. SEDIGHIAN
PRIMARY EXAMINER